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Septobasidium atalantiae sp. nov. (*Septobasidiaceae*) and *S. henningsii* new to China

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Abstract —A new species, *Septobasidium atalantiae* on *Atalantia buxifolia* associated with nymphal stage of a scale insect, and a new Chinese record of *Septobasidium henningsii* on *Memecylon floribundum* are reported. They were collected from Hainan Province, China.

Key words —*Pucciniomycetes*, *Septobasidiales*, taxonomy

In 2010 some *Septobasidium* specimens were collected by the second author and her colleagues from Hainan Province. Among them a new species of *Septobasidium* on *Atalantia buxifolia*, which is associated with the nymphal stage of a scale insect, is described as follows:

Septobasidium atalantiae S.Z. Chen & L. Guo, **sp. nov.** Figs. 1–7

MycoBank MB 561544

Basidiomata resupinata, 0.2–7 cm longa, 0.15–1.4 cm lata, alba vel cinnamomeo-brunnea, margine indeterminata, superficie laevia vel velutina, saepe protuberantia, interdum maturitate fissurata, in sectione 480–1200 µm crassa. Subiculum brunneum, 25–100 µm crassum. Columnae brunneae, 20–50 µm altae, 20–70 µm latae. Strata hypharum 420–830 µm alta. Ab strato hymenii hyphae saepe repullulantes tum stratum hypharum et hymenium secundum formantes. Hymenium hyalinum, 60–70 µm crassum. Basidia cylindrica, curvata, 4-cellularia, 43–53 × 7.5–8.5 µm, hyalina. Sterigmata cylindrica vel conica, 6–7 × 3–5 µm. Sine probasidio. Basidiosporae non visae. Haustoria ex hyphis irregulariter spiralibus vel parallelis constantia.

Type: On *Atalantia buxifolia* (Poir.) Oliv. (*Rutaceae*): China, Hainan Province, Haikou, alt. 420 m, 1.XII.2010, L. Guo 11536, HMAS 251151 (**holotype**), associated with nymphal stage of a scale insect.

Basidiomata on branches, spreading to leaves, resupinate, 0.2–7 cm long, 0.15–1.4 cm wide, forming small isolated or confluent patches, white or

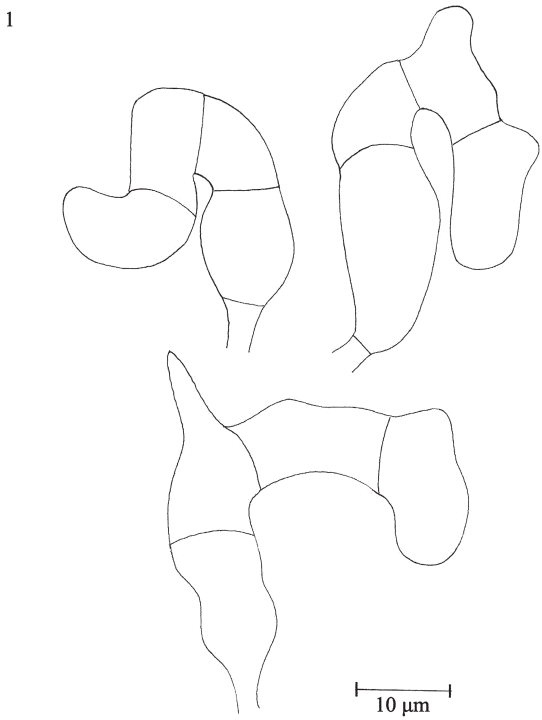
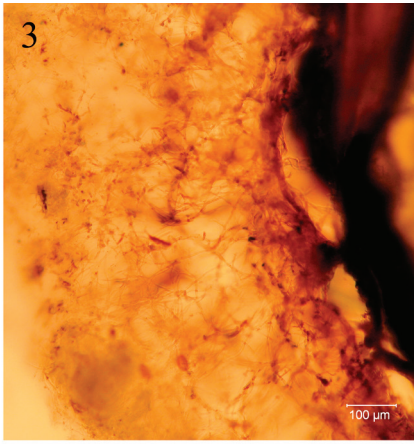


Fig. 1. Basidia of *Septobasidium atalantiae* (HMAS 251151, holotype).

cinnamon-brown; margin indeterminate, surface smooth or velutinous, frequently with round protuberance, sometimes cracked at maturity. In section 480–1200 μm thick. Subiculum brown, 25–100 μm thick. Pillars brown, 20–50 μm high, 20–70 μm wide. Towards the top the pillars branch out to form a hyphal layer, 420–830 μm high, sometimes with a bunch of hyphae in holes in the old stage. Hymenium hyaline, 60–70 μm thick. In the old stage from hymenial layer the fungal hyphae often renew growth to form the second hyphal layer and hymenium. Basidia arising directly from the hyphae without a probasidial cell, cylindrical, curved, 4-celled, 43–53 × 7.5–8.5 μm, hyaline. Sterigmata cylindrical or conical, 6–7 × 3–5 μm. Basidiospores not seen. Haustoria consisting of irregularly coiled hyphae, occasionally with closely packed parallel hyphae.

Figs. 2–7. *Septobasidium atalantiae* (HMAS 251151, holotype). 2. Basidiomata on branches and leaves. 3–4. Sections of basidiomata. 5–6. Basidia (arrows). 7. Haustoria.

2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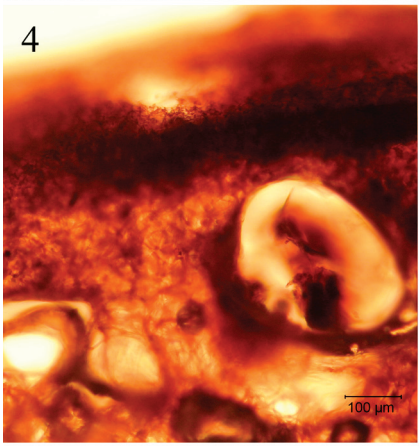
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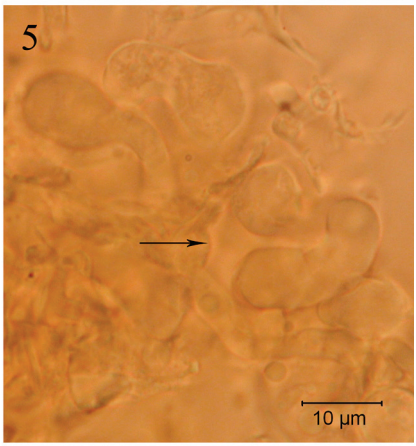
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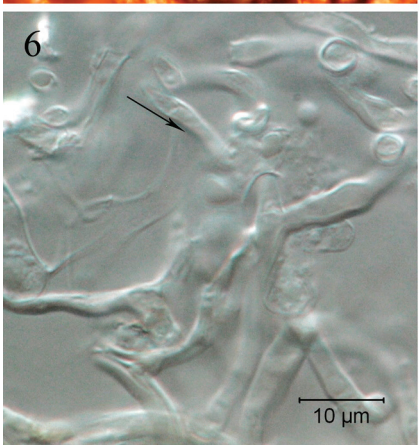
6
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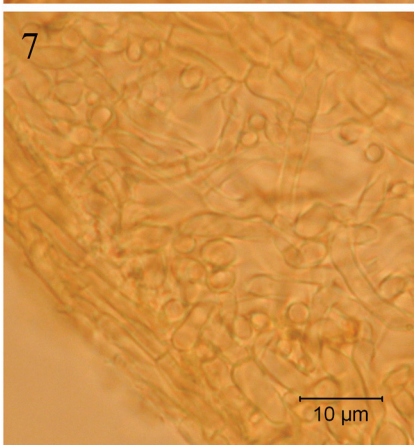
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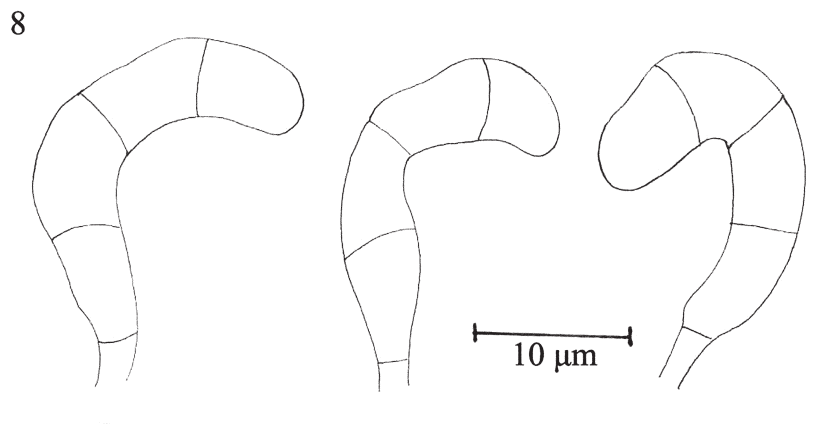

Fig. 8. Basidia of *Septobasidium henningsii* (HMAS 251152).

Remarks: Morphologically, *Septobasidium atalantiae* is similar to *S. natalense* Couch ex L.D. Gómez & Henk, but the latter has thinner section (250–500 mm high), taller pillars (100–200 μm high), and a non-stratose hymenial layer in the old stage (Couch 1938).

Septobasidium henningsii Pat., Monsunia 1: 138, 1899. Figs. 8–13

Basidiomata on branches, resupinate, (0.5–)5–12 cm long, 0.3–3 cm wide, brown or greyish brown; margin determinate, fibrillose, surface smooth, frequently with round protuberance, cracked at maturity. In section 1460–2200(–2500) μm thick. Subiculum brown, 25–50 μm thick. Pillars brown, 530–1100 μm high, 30–40 μm wide, entangled, arising in a slanting direction, often with a horizontal layer at the base of pillar. Hymenia brown, 650–850 μm thick, 1–4 strata, with closely packed parallel upright hyphae. Basidia at first pyriform or subglobose, cylindrical at maturity, straight or slightly curved, 4-celled, 23–38 × 5–6 μm, hyaline or yellowish, without a probasidial cell. Basidiospores not seen. Haustoria consisting of subfusiform cells or hyphae.

Specimen examined: On *Memecylon floribundum* Blume (*Melastomataceae*): **China**, Hainan Province, Bawangling Natural Reserve, alt. 370 m, 26.XI.2010, Y.F. Zhu & F. He 522, HMAS 251152.

Remarks: The Chinese specimen coincides morphologically with the original description of *Septobasidium henningsii* (Couch 1938), except that the original has larger (36–54 × 7–9.8 μm) basidia.

Figs. 9–13. *Septobasidium henningsii* (HMAS 251152). 9. Basidiomata on branches. 10. Hymenia. 11. Basidium (arrow). 12. Haustoria.13. Section of basidioma.

9
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4
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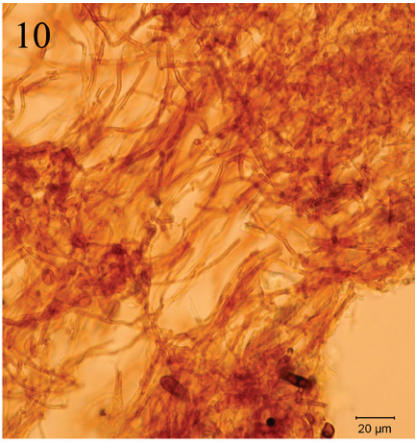
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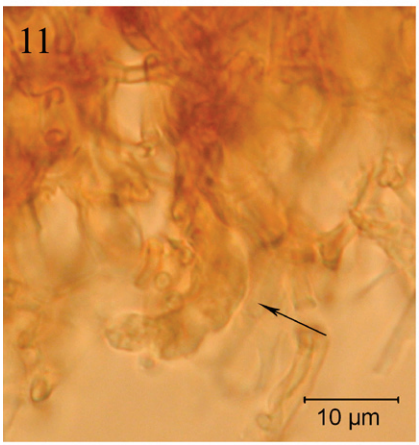
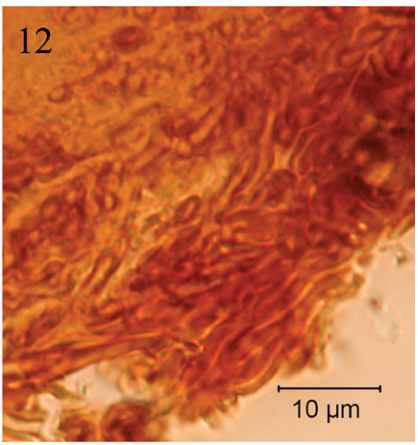
20 µm


11
10 µm


12
10 µm

13
100 µm

To date, 33 species of *Septobasidium* have been reported in China (Sawada 1933, Couch 1938, Teng 1963, Tai 1979, Kirschner & Chen 2007, Lu & Guo 2009a,b,c, 2010a,b,c, 2011, Lu et al. 2010, Chen & Guo 2011), including the two species reported in this paper.

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